GUIDELINES FOR PREPARATION OF A MUNICIPAL SOLID WASTE REGIONAL PLAN

As Required By
The Solid Waste Management Act of 1991
T.C.A. 68-31-813(c) and 68-31-815

The Tennessee State Planning Office

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PART I.

EXECUTIVE SUMMARY

Prepare a concise summary of the region's solid waste management plan, as described in detail in Parts II and III. The summary should not exceed 10-12 pages.

Include in the summary volume:

- a brief definition of the region and the rationale for its formation;
- a summary of regional needs;
- * a statement of regional goals and objectives;
- a list of system elements included in the regional plan;
- a description of how new programs, services, and facilities will be coordinated with the existing system;
- an implementation schedule;
- estimated 10-year system costs;
- the proposed allocation of responsibilities among local governments,
 and the private sector;
- * and any maps, figures or graphics which summarize or clarify the plan.

The Executive Summary may be printed and bound separately for broad distribution to local government officials and citizens.

GUIDELINES FOR PREPARATION OF A MUNICIPAL SOLID WASTE REGIONAL PLAN

Introduction:

The Solid Waste Management Act of 1991 requires the formation of municipal solid waste planning regions, based on the recommendations of a District Needs Assessment prepared under the leadership of the state's nine Development Districts. The planning regions are to be formed by the end of December 1992. Each region is then directed to prepare a ten-year plan describing how the region will meet regional needs.

The purpose of the District Needs Assessment was threefold: (1) to carry out an inventory and analysis of the existing solid waste management system; (2) to define needs for additional services and facilities for the next ten years; and (3) to recommend rational waste disposal areas, which may provide the nucleus for a municipal solid waste planning region.

The purpose of the regional plan is to set forth how planning regions will meet these needs. The regional plan should be based on the inventory of facilities, services and programs provided in the District Needs Assessments. If the planning region consists of more than one county, the data in the county profiles must be reaggregated, and the adequacy of the newly constituted region to provide needed capacity evaluated. The planning region must then define its specific needs—quantitatively, if possible.

It will not be necessary to revise the data collected in the District Needs Assessment, unless there has been a significant change in waste generation or management capacity, in the intervening year, which was not projected in the Assessment (for example, the sudden closure of a major industry, or construction of a new processing facility). The regional plans may utilize Tables from the District Needs Assessments, where appropriate.

The regional plan will be more specific and more detailed than the District Needs Assessment. The regional plan should address all required plan elements and follow the organization format set forth in these Guidelines. Much of the plan will be narrative and may be supported by tables, figures, and maps prepared by the region. The base year is 1993, and the planning horizon is 1994-2003.

The plan will consist of three parts: (1) an Executive Summary; (2) a detailed plan; and (3) Appendices.

The plan is to be submitted to the State Planning Office no sooner than September 30, 1993, and no later than December 31, 1993, after public hearings have been conducted in the region.

The Statutory Authority requiring preparation of a plan and describing its content is found in the following sections of the Tennessee Code Annotated: T.C.A. Sections 68-31-813(c); 68-31-814(a); 68-31-814(b); 68-31-815; 68-31-851(b); 68-31-861(f); 68-31-842; 68-31-871(a) and (b); and indirectly, in 68-31-866(b); and 49-7-121.

DESCRIPTION OF THE MUNICIPAL SOLID WASTE REGION

- A. GENERAL DESCRIPTION: In a brief narrative, (supported by tables or graphics if needed);
 - 1. List all counties and municipalities included in the region;
 - 2. State the total area of the region (in square miles), describe its major physiographic features, and dominant land uses;
 - 3. Prepare a regional base map, indicating political boundaries, major roads and waterways (to be used throughout the plan).

B. RATIONALE FOR REGION FORMATION:

For a multi-county region, describe and evaluate all solid waste disposal region options considered, and state reasons why the counties adopted the specific multi-county region.

In the case of a single county region, that county should state specific reasons why it failed to adopt a multi-county option. [T.C.A. Sections 68-31-815(b)(12), 68-31-813(a)-(e) and 68-31-814(b)(1) and (15)].

C. INSTITUTIONAL STRUCTURE:

1. Briefly describe the structure of the Administrative Board of the region or authority (i.e. number, representation, powers and duties); describe how it coordinates with existing local government agencies; describe the composition and role of a regional advisory committee; and describe how the region or authority involves the public in its decisions.

D. DEMOGRAPHICS:

- State the current (1993) population of the region according to U.S. Census Bureau projections, and calculate its average population density.
- 2. Reaggregate data collected in the District Needs Assessment County Profiles (Chapter I.A.(1)-(13) of each of the region's constituent counties.
- 3. Analyze the regional data, following the format set forth in the District Needs Assessment Guidelines, District Summary and Synthesis [Chapter I.B.]. (Forms are provided at the end of the Chapter)
- Identify and discuss regional demographic trends that may affect future waste generation rates and quantities.

E. ECONOMIC ACTIVITY

- 1. Review economic activity data in the District Needs Assessment County Profiles for each county in the region [Chapter II. A. (1) through (39)]. It is not necessary to update the information unless there has been a significant change since the District Needs Assessment was prepared.
- 2. For a multi-county region, reaggregate county data and prepare a regional summary and analysis, following the format set forth in District Needs Assessment Chapter II.B. (Forms are provided at the end of the Chapter)
- 3. Identify and discuss regional economic factors that are expected to affect future waste generation rates and quantities, over the next ten years. Explain how projections may be affected.

CHAPTER I: FORMS

A.	REGIONAL SUM	IMARY: DEMOGRAPH	IICS .	
1.	Name of Region -			
2.	Regional Populati	on		
3.	Regional Area	square miles		
4.	Population and P	opulation Density		
		•	Table I-1	
	County	Area (Sq. Miles)	Population	Avg. Density Population/sq. miles
, ,				
	Regional			

5. Distribution of the Total Regional Population, by urban and rural areas:

Table I-2

	Urb	an	Rural		
County	Population	%	Population	%	
			·	. ·	
		·			
Regional Fotal					

6. Distribution of the Total Regional Population by Sex and Age

Table I-3

Age	Total	Male	%	Female	%
0-4					· · · · · · · · · · · · · · · · · · ·
5 - 17					
18 - 44			. :		
45 - 64					<u> </u>
65+					····
Regional Total				·	

7. Distribution of Regional Population by Education (Age \geq 25)

Table I-4

	Number	%
Less than 8th Grade		
Grade 8		
High School (1-4)		
College (1-4)		
Post Graduate/Professional (>4)		
Regional Total		

8. Total Number of Households in Region _____

9. Distribution by Type of Housing and Occupancy

Table I-5

	Total Units	Occupied	Owner	Rented
Single Family	·			
1, Detached				·
1, Attached				
Multi-Family				
2				
3 - 4				·
5 - 9	·			gan of a
10 - 19				
20 - 49				_
50 or more				
Institutional		·		
Mobile Home/Trailer				
Other				
Regional Total				

10. Regional Population Projections 1994 - 2003

Table I-6

Regional Population 1993:

Projection Year

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
							·			
Regional Total	•						-			

B. ECONOMIC ACTIVITY

Basic economic information, for each county, and the region in 1991.

Table I-7

County	Population	MSA County (yes/no)	Total Employment	Total Earnings	Per Capita Income	% Population Below the Poverty Line
					· ·	
						•
Regional Total						

	•		
2.	Non-Agricultural Employment,	by Sector, in 1993	

Table I-8

% of Total Employment

County	Manufac- turing	Construction	Trade	Finance	Service	Govt.	Transportation Pub. Utilities
				-		Ì	
					April & March		
Regional Total							
%				,			

3.	Total Agricultural	Employm	ent in	1991
J.	TOTAL LIGHT CONTRACTOR		•	

Table I-9

Agricultural Employees

County	Employment
· · · · · · · · · · · · · · · · · · ·	
	<u> </u>
Regional Total	
Total	

4. Prepare a regional summary of major generators of commercial and non-hazardous industrial waste in 1991. Use data from Table II-2 in the County Economic Activity Profiles, in District Needs Assessment, or data collected subsequently for the regional plan. State size criteria applied in each county (i.e., all generators > 100 employees, all generators > 50 employees, etc.)

Table I-10

County	Screening* Criteria Applied	Number of Generators	Estimated Total Quantity of Waste
,			
			16.00 F
<u> </u>			
			· ·
Regional Total			

5. Prepare a Regional summary of institutions housing more than 100 persons.

Table I-11

			_ ~
County	Total Number of Institutions	Total Number of Students Prisoners/Residents	Estimated Quantity of Waste Generated
Regional Total			

 Provide summary data on major health care facilities (larger than 50 beds), (hospitals, nursing homes) in the region.

Table I-12

· · · · · · · · · · · · · · · · · · ·	No. of		Infectious Wa	Est. Quantity of	
County	Facilities	No. of Beds	OnSite/Offsite	Type Treatment	Solid Waste Generated
,		1			
				20 - 1 - 3	
<u> </u>				•	
Regional Total			•	··	·

7. Sources of local revenue utilized in the region. Check all relevant boxes.

Table I-13

County	Property Tax	Local Sales Tax	Wheel Tax	Local Waste Collection Fee	User Fee/ Tipping Fee	Other*
			·		•	
·					·	
Regional Total			,			

^{*} Please specify

8. Provide the following data for fiscal 1993.

Table I-14

County	Total Assessed Property Value	Total Property Tax Revenue	Total Sales Subject to Sales Tax	Total Local Sales Tax Revenue	# Registered Vehicles	Total Wheel Tax Revenue
·			•			
	·					
					·	
Regional Total						

ANALYSIS OF THE CURRENT SOLID WASTE MANAGEMENT SYSTEM FOR THE REGION

Statutory Requirements:

"...(E) ach plan submitted by a municipal solid waste region shall include the following: ... (2) a current system analysis of: (A) waste streams, including data concerning types and amounts generated; (B) Collection capability, including data detailing the different types of collection systems and the populations and areas which receive and do not receive such services; (C) disposal capability, including an analysis of the remaining life expectancy of landfills or other disposal facilities; (D) costs, using a full-cost accounting model developed by the State Planning Office; including costs of collection disposal, maintenance, contracts, and other costs; and (E) revenues, including cost reimbursement fees, appropriations, and other revenue sources." [T.C.A. Section 68-31-815 (b)(2)]

With a few exceptions, data supporting this chapter is displayed in the County Profiles, prepared for each county as a part of the District Needs Assessments (Chapters III, V, VI, VII, VIII, and IX).

For multi-county regions, which are different from the Development Districts, county profiles should be reviewed and the data reaggregated to conform with the boundaries of the region. Analyze the reaggregated data, reassess service gaps and overlaps for the region, and identify regional needs. Needs should be expressed quantitatively, whenever possible (i.e. numbers of collection sites, or tons/year of incineration, processing or disposal capacity).

A. WASTE STREAM CHARACTERIZATION

- 1. Review the information collected for each County Profile in the region, as set forth in the District Needs Assessment (Chapter III, A.1-18).
- 2. For a multi-county region, reaggregate the data and prepare a <u>regional</u> summary and synthesis following the format for the district summary required in the assessment. (Chapter III B.) (Forms are provided at the end of the Chapter.)
- 3. (Optional) Some regions, particularly those who plan to site and construct new facilities, may wish to carry out a sampling and analysis of their waste stream before estimating future capacity needs. The region may also conduct a detailed survey of industrial and commercial generators in the region to acquire a clearer definition of the projected waste stream.
 - If the region has followed either option, please summarize findings of the compositional study or analyze survey results, if these results affect the region's decision about the mix and capacity of proposed facilities.
- 4. Evaluate this information for the region. Identify any major differences from national composition that would affect regional needs. (Attach a separate page if more space is needed.)

 Describe any special conditions (for example, tourism) that may or do affect the composition of the solid waste stream in the region (or in any specific county within the region).

B. WASTE COLLECTION AND TRANSPORTATION SYSTEMS

- Reaggregate data and evaluate the existing collection services and facilities in the planning region, using information collected in County Profiles of the District Needs Assessment (Chapter V, A.1-18.)
- 2. Identify currently unserved areas, or underserved areas.(e.g., areas where only green boxes are available, or areas where frequency of collection is inadequate).
- Indicate the location of all facilities and service areas in the region on the regional system map required by Part J. of this Chapter.

C. SOURCE REDUCTION AND RECYCLING SYSTEMS

- 1. Describe any current source reduction measures that have been initiated in the region.
- Review current recycling programs as described in County Profiles (District Needs Assessments, Chapter VII. Part A) for each county in the planning region.
- 3. For a multi-county region, reaggregate county data, and prepare a regional summary and synthesis. Evaluate the quantity, quality, efficiency and viability of existing recycling collection programs, processing and markets in the region. Discuss opportunities for strengthening existing programs through regional cooperation, equipment sharing, and/or joint marketing of recovered materials.
- Indicate the location of all recycling collection sites and processing centers on the map to be prepared in Part J. of this Chapter.

D. WASTE PROCESSING, COMPOSTING, AND WASTE-TO-ENERGY/INCINERATION SYSTEMS

1. Waste Processing Facilities

- Review data on waste processing facilities included in the County Profiles in Chapter
 VI of the District Needs Assessment, for each county in the region.
- Reaggregate data according to regional boundaries and summarize the region's waste processing capacity.

2. Composting

- Review information regarding composting facilities described in the County Profiles,
 Chapter VI of the District Needs Assessment, for each county in the region.
- b. Reaggregate, and summarize the regional composting capacity. Complete Table II-6. (Forms are provided at the end of this Chapter).

3. Waste-to-Energy/Incineration

- a. Review information regarding waste-to-energy facilities or incinerators described in the County Profiles, Chapter VI, A. of the District Needs Assessment, for each county in the region.
- b. Reaggregate, and summarize the regional waste-to-energy/incineration capacity, if any. Complete Table II-7 (Forms are provided at the end of this Chapter).
- 4. Indicate the location of any waste processing facilities, composting facilities, and waste-to-energy or incineration facilities on the regional system map described in Part J. of this Chapter.

E. DISPOSAL FACILITIES - LANDFILLS AND BALEFILLS

- 1. Review the description of existing and planned landfill capacity as set forth in County Profiles, of the District Needs Assessment (Chapter VI, Part A) for each county in the planning region. [Update only if a significant change in projected capacity has occurred since September 30, 1992.]
- 2. Reaggregate the data and calculate existing and planned total regional disposal capacity for each of the next ten years. Complete Tables II-8 through II-11. (Forms are provided at the end of this Chapter).
- 3. Indicate the location of all disposal facilities (existing and planned) on the regional system map to be prepared in Part J of this Chapter. (Indicate planned facilities by an appropriate subscript or symbol.)

F. COSTS OF THE CURRENT SYSTEM

For each county in the planning region, prepare a detailed financial statement summarizing
the costs incurred by the county and/or its municipalities for all solid waste services, facilities,
and programs in fiscal 1993.

The statement should include all direct expenses, and indirect costs related to each component of the system. The statement should cover collection, transportation, intermediate processing and handling, recycling, composting, problem waste handling, and incineration or disposal. If all or part of these services were provided by the private sector under contract with a county or municipality, include information on these service contracts.

- 2. Combine all county solid waste financial statements into a regional summary of current system costs in the base planning year.
- Display this information on a pie-chart or other graphic display.

G. REVENUES

1. For each county in the planning region, prepare a statement summarizing the sources of revenue supporting the current solid waste management system. Include the revenues collected by the county and those utilized by those municipalities or utility districts within the county that provide solid waste services.

For each source of revenue, describe its base, rate, and total revenue yield in FY 1993. State what share of the total revenue is appropriated to support solid waste services or facilities. Include all appropriations, all cost reimbursement fees, user fees, waste disposal fees, grants, loans, and sales of recovered materials.

- 2. Combine these county revenue profiles into a regional summary of current revenue sources available to the region.
- 3. Display this information in a pie-chart or similar figure.

H. PUBLIC INFORMATION AND EDUCATION PROGRAMS

- 1. Review the description of existing Solid Waste and Recycling Education programs, public and private, as described in the County Profiles for each county in the region, as set forth in the District Needs Assessment (Chapter VIII, A.)
- 2. For a multi-county region, reaggregate the data, and prepare a summary and analyses of the region's solid waste and recycling education efforts.
- 3. Indicate the location of any school, or community-based educational programs on the regional system map to be prepared in Part J. of this Chapter.

I. PROBLEM WASTES (See Chapter X)

J. SYSTEM MAP FOR BASE YEAR (1993)

Using the large scale base map prepared in Chapter I, prepare a composite map of the regional solid waste management system or systems in the base year. Include as a minimum:

- 1. convenience center sites;
- 2. collection service areas;
- transfer stations;
- recycling collection sites;
- 5. transportation routes;
- 6. processing facilities sites;
- composting facilities sites;
- 8. incineration facilities sites;
- landfills, and balefill sites;
- 10. educational program sites (e.g., schools)

K. STRENGTHS AND WEAKNESSES OF EXISTING SYSTEM

Evaluate the quantity, variety and quality of solid waste collection, treatment and disposal facilities, services and programs provided to citizens in the region, according to the policy statement in Section 3 of the Act. In a narrative, supported by the above map and tables, discuss: Is the system an integrated solid waste management system? If not, what elements are lacking?

Identify strengths and weaknesses of the existing and planned system. Discuss the quality of existing services and facilities with respect to compliance, citizen satisfaction, qualifications of operators, etc.

CHAPTER II: FORMS

- A. Regional Summary: Waste Stream Characterization
- 1. Quantity of Solid Waste Received for Disposal/Incineration in Calendar 1991

Table II-1

County	Tons Disposed	Population (1991)	Waste Disposed Per Capita	
			•	
			·	
Regional Total			.4	

2. Origin of Regional Solid Waste in 1991

Table II-2

TONS PER YEAR

County	Residential	Institutional/ Commercial	Non-Hazardous Industrial	Special	Other
<u> </u>					
				·	
Regional Total	·			,	

^{*} Describe briefly. Use a separate page if necessary.

3. Acceptance of Certain Categories of Solid Waste for Disposal or Incineration

Table II-3

	Yard (Clip)		Sewas	ge Sludge		struction nolition	Tir		G	hite oods
County/Facility	Y/N	Qty	Y/N	Qty	Y/N	Qty	Y/N	Qty	Y/N	Qty
						_, _, _, _, _, _, _,				
•	1									
			<u> </u>							
	ļ		l							
	_								ļ	
			ļ		ļ		 	<u> </u>	 	
			 							
Regional Total			l]				<u> </u>	1

^{*} White Goods - discarded major appliances, such as refrigerators, ranges, etc.

4. Description of the Waste Stream By Materials

Table II-4

Waste Category	National %	Calculated Regional Tons
Paper & paperboard	40.0	•
Glass	7.0	
Ferrous Metals	6.5	
Aluminum	1.4	
Other Non-Ferrous Metals	0.6	
Plastics	8.0	
Rubber & Leather	2. 5 ·	
Textiles	2.1	
Wood	3.6	
Food Waste	7.4	
Yard Waste	17.6	
Misc. Inorganic Waste	1.5	
Other	1.7	
TOTAL MUNICIPAL SOLID V	VASTE 100.0	

5. Unmanaged Waste*

Table II-5

County	Potential Waste Generation 1991 tpy	Actual Waste Disposed 1991 tpy	Unmanaged Waste 1991 (potential/actual) tpy	Percent of Potential Total
		,		
*				
Regional				·
Total				

 $^{^{}st}$ Wastes that are "outside" the collection system such as materials in roadside dumps, litter, etc.

Table II-6

6. Operating and Planned Composting Facilities in the Region

			Composted Materials			
County	Facility Location	Tons of Waste Processed/Yr	Yard Waste	Sewage Sludge	Solid Waste	
xisting:						
					<u> </u>	
lanned:	, ,			! .	1	
· •						
	·					
			<u> </u>			
legional			•			

7. Municipal Solid Waste Incinerators or Waste-to-Energy Facilities in the Region

Table II-7

Operating Facilities

County	Facility Location	Design Capacity tons/year	Current Use tons/year	Anticipated Operating Life of Facility

Planned Facilities

County	Facility Location	Design Capacity tons/year	Current Use tons/year	Anticipated Operating Life of Facility
			NA	
			NA	
			NA	
, , , , , , , , , , , , , , , , , , , ,			NA	
·	·		NA	

8. Existing Municipal Solid Waste Landfills in the Region

Table II-8

County	Name of Landfill	Location	Permitted Capacity (Acres)	Current Rate of Waste Accepted (tons/day)	Remaining Capacity (tons)
	·				
		·			
	:				
	·				
<u> </u>					
		1			
Regional Total					

Existing Landfills Expected to Close Before 2003

Table II-9

County	Location	Current Use (Tons/Day)	Current Annual Use (Tons/Year)	Anticipated Date of Closure
<u> </u>		•		at an analysis
		·	<u> </u>	414.1
Regional Total				

10. Planned Expansions and Planned New Facilities Which Will Operate for Ten Years or More

Table II-10

	Propo Facil	lity		When Will Capacity	Permitted Capacity	Design Rate of Waste	Potential Expansion
County	Expan.	New	Location	be Available	Sought (acre)	(tpd) Disposed	Yes/No
		•					
. 3							
			,				
Planned N	New Capacity						

11. Total Existing and Planned Capacity in the Region at the Close of the Next Ten Years

Table II-11

	TONS								
Year	Existing	Planned	Total						
FY 1993									
FY 1994									
FY 1995									
FY 1996									
FY 1997									
FY 1998									
FY 1999									
FY 2000	·								
FY 2001									
FY 2002	· · · · · · · · · · · · · · · · · · ·								
FY 2003									

GROWTH TRENDS, WASTE PROJECTIONS AND PRELIMINARY SYSTEM STRUCTURE

Statutory Requirements:

"...(E) ach plan submitted by a municipal solid waste region shall include...anticipated growth trends for the next ten- (10) year period...and anticipated waste capacity needs." [T.C.A. Section 68-31-815(b)(4) and (5)]

In this chapter each planning region should first define probable growth trends, and determine how much waste it will be required to manage in each year of the ten-year planning period (1994-2003).

To define regional solid waste management demand, the planning region should carry out a regional analysis following the same methodology and reporting format used by the District Needs Assessment.

Next, the regional plan should state which of the possible components of an integrated waste management system will be considered in the plan, how much of the waste stream might be managed by each, and how components will be evaluated.

- A. For each county in the region, review the County Profile in the District Needs Assessment, Chapter IV., A(1) through (7). Extend the projections for two additional years (through 2003).
- B. For a multi-county planning region, reaggregate the county profiles into a regional summary following the methodology and format in the District Assessment, Chapter IV. Calculate the region's adjusted demand—the total quantity of solid waste that will require collection, treatment and disposal in each projection year from 1994 through 2003. The quantity of waste displayed in the final table represents the quantity of waste to be managed in each projection year. (Forms are provided at the end of the Chapter.)

This projected amount of waste represents the regional demand for solid waste management services, facilities and programs. This demand will be compared with the current system supply and planned additions to the current system (as described in Chapter II) to define the regional needs in each projection year.

C. PRELIMINARY SYSTEM DESIGN

Make a preliminary determination and describe briefly which elements of an integrated waste management system will be considered in the regional plan. Estimate what percentage of the total projected quantity of waste will be handled by each major component. After each system component has been evaluated in Chapters IV-X, these tentative decisions will be revisited in Chapter XI, where they may be confirmed or revised, as a result of the detailed analyses of each component.

D. EVALUATION CRITERIA FOR THE REGION

The solid waste management system options should be carefully evaluated in the next seven chapters. A final selection of system elements and configurations may be deferred until the evaluation has been completed.

Evaluation criterion should include: institutional compatibility; number and size of facilities needed to meet defined regional needs; evaluation of regional markets for recovered materials, fuel or energy; capital and annual operating costs; unit costs (cost per ton of waste); siting and regulatory requirements; environmental impacts; public acceptance; and any other criteria selected by the regional Board or Authority.

CHAPTER III: FORMS

1. Complete the following Table, summarizing calculations of annual <u>per capita</u> solid waste generation rates, for each county in the region.

Table III-1°

County	Total Waste Disposed in FY 1993	Projected Population 1993	Annual Per Capita Generation Tons/Person/Year
Total			

- * Aggregate from Items 2, 3 and 4 in Chapter IV.A of the District Needs Assessment County Profiles
- Summarize the projected quantity of solid waste requiring disposal (generation) in the region in each projected year, adjusted for population changes.

Table III-2*

Quantity of Solid Waste Requiring Disposal (tons)

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	<u> </u>									
· · · · · ·	-	 								
•		<u> </u>								
		-								
· · ·		 					1			
		 	 							
Total	-						 			

^{*} Aggregate from Tables IV-1 in District Needs Assessment County Profiles, as extended.

Summarize the projected quantity of solid waste requiring disposal in the region for each projection year, adjusted for population growth <u>and</u> economic growth.

Table III-3*

Quantity of Solid Waste Requiring Disposal (in tons) Adjusted for Population and Economic Growth

County	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	-	 	 							ļ
			 							
				 	†					
				 						
				-						
					 	 	 	 		
		<u> </u>			ļ			 		-
Total			.			<u> </u>	<u></u>	<u> </u>	1	<u> </u>

^{*} Aggregate from Table IV-3 in District Needs Assessment County Profiles, as extended.

4) Summarize the projected quantitites of solid waste requiring disposal (= generation) for each projection year, adjusted for population growth, economic growth, and source reduction, recycling, and industrial process change.

Table III-4*

Quantity of Waste Requiring Disposal (in tons) Adjusted for Population Changes, Economic Growth, and Waste Reduction and Recycling

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
County										<u> </u>
								•		ł
										
										1
										
				 	 	 	 	ļ		
Total	}				<u> </u>	<u> </u>	<u></u>	<u> </u>		

Aggregate from Table IV-4 in District Needs Assessment County Profiles, as extended.

5) Summarize projected waste after adjustments for regulatory factors, if any, displaying adjusted projections for each projection year. (Omit this Table if no regulatory credits were claimed by any county in the region.)

Table III-5* (optional)

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
		1								
			-	 		<u> </u>				
					<u> </u>	<u> </u>	ļ			<u></u>
					 					
, , , , , , , , , , , , , , , , , , , 					 		· · · · · · · · · · · · · · · · · · ·			
					ļ					
Total					1					,

^{*} Aggregated from Tables IV-5A, IV-5B, etc., in District Needs Assessment, if applicable.

(Omit if no special factor adjustments were claimed by any county in the region)

Table III-6* (Optional)

Annual Projections of Solid Waste Requiring Disposal Adjusted for Special Factors (in tons/year)

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
					<u> </u>	<u> </u>	<u> </u>			
						<u> </u>				
. •										
										
Total	<u> </u>	<u> </u>	-	-	1					

^{*} Aggregated from Tables IV-6 in District Needs Assessment County Profiles, if applicable.

Summarize projected waste generation for each projection year, adjusting for all net imports or exports of wastes. (Omit the table if no exported or imported waste adjustments were made by any county in the region.)

Table III-7 (Optional)

Annual Projections of Solid Waste Requiring Disposal Adjusted for Waste Imports or Exports (in tons/year)

County	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	 									
_ 			:							
	 									
				-						
	<u> </u>			 	<u> </u>					
	ļ			 	 					
Total					<u>] </u>					r et.

^{*} Aggregate from Table IV-7 in District Needs Assessment County Profiles, if applicable.

Prepare a Summary Table indicating projected quantities of solid waste which will require collection and disposal in each projection year, after adjustment for all applicable factors.

Table III-8

Annual Projections of Solid Waste Requiring Disposal Adjusted for All Applicable Factors (in tons/year)

County	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
County										
		†								
										
				·						
	 	-		,	ļ			<u> </u>		
Total				<u></u>	<u> </u>	<u> </u>		L	L	

Statutory Requirements:

"The goal of the state is to reduce by twenty-five percent (25%) the amount of solid waste disposed of at municipal solid waste disposal facilities and incinerators, measured on a per capita basis within Tennessee by weight, by December 31, 1995." [T.C.A. Section 68-31-861(a)]

"...[E]ach plan submitted by a municipal solid waste region shall include...a description of waste reduction activities designed to attain the twenty-five per cent (25%) reduction required by Section 25(a) [T.C.A. Section 68-31-861(a)]; and Section 14(b)10. [T.C.A. Section 68-31-815(b) (10)].

"A county or region shall have the flexibility to design its own plan and methods which take into account local conditions for attaining the waste reduction goal set by this section. This plan shall be included as a part of the county or regional plan required by Section 13 of this act." [T.C.A. Section 68-31-861(f)]

A. ESTABLISHING A BASE YEAR QUANTITY

- Record the population and the quantity of solid waste generated and disposed of in calendar 1989 for every county in the region. (This data is available in the UT Report entitled "Managing Our Waste: Solid Waste Planning in Tennessee," published in February 1990.)
- 2. Aggregate the 1989 population and the waste generation data for each county in the region in order to determine the total quantity of waste disposed of in municipal solid waste landfills or incinerators in the base year. Complete Table IV-1 (Forms are provided at the end of this Chapter.)
- 3. Calculate the <u>regional per capita waste disposal</u> rate for the base year 1989 (unless a variance has been granted under T.C.A. Section 68-31-861(b).

Total waste disposed or incinerated (tons) = regional annual per capita waste
Total regional population disposal rate (tons/person/year)

- 4. Adjustment to base year data. If the reported quantity of waste managed in 1989 for any county in the region has been demonstrated to be in error, and an adjusted base figure has been approved by the Director of the State Planning Office in accordance with T.C.A. Section 68-31-861(a) and (b), state the adjusted quantity for each county. Provide copies of the error documentation and approval letter(s) for each county in Appendix B. Fill out Table IV-1., using the adjusted quantity.
- 5. Alternate base year. List any county in the region which has attained a variance from waste reduction because it did not collect waste as of January 1, 1991, under T.C.A. Section 68-31-861(b). Provide a copy of the variance in Appendix B.

For each county receiving a variance, describe that county's plan and timetable for providing collection service, and establishing a base year for its waste reduction goal.

В.	ALCULATE A TARGET 1995 WASTE REDUCTION PER CAPITA DISPOSAL R	OI F
٠.	ADCOUNTE A TANGET 1995 WASTE REDUCTION FER CAPITA 1915POSAL, R	(L) I

1. Calculate the value of a 25% reduction in the per capita quantity of waste disposed, in tons/person/year.

Average 1989 per capita rate x .25 = Target 1995 per capita reduction (tons/person/year) (tons/person/year)

2. Multiply this target per capita reduction times the regional population projection for 1995 (from Chapter III, Table III-1, Column 2) to determine the quantity of waste in tons, that must be reduced at the source, or diverted to alternative treatment options, if the region is to meet the statutory goal by December 31, 1995.

1995 target per capita reduction (tons/person/year) x 1995 population (persons)

= 1995 target reduction in tons/year

C. DESCRIBE HOW THE REGION WILL MEET THE STATEWIDE WASTE REDUCTION GOAL. Include:

- 1. A statement of the region's waste reduction goals and objectives, short term (12/31/95) and long term (2003). (Detailed Guidance and Regulations for calculating waste reduction will be promulgated by the Solid Waste Disposal Control Board in 1992.)
- 2. A quantitative allocation of the 1995 waste reduction target
 - a. by material (i.e., glass, paper, yard waste, etc.)
 - b. by economic sector (residential, commercial, institutional, and industrial);
 - c. by year (1994, 1995, or beyond);
- 3. A description of the strategy or combination of strategies that will be used to meet the target amount (estimate the amount of reduction anticipated for each strategy, for each year)
 - a. credit taken for previous waste reduction due to source reduction and recycling programs in 1985-1989 [T.C.A. Section 68-31-861-(c)], and documentation to support the claimed credits. Provide documentation in Appendix B.

Prior Waste Reduction Credit _____ (tons)

- b. materials recovery, reuse and recycling (as set forth in Chapter VI). (Estimate the quantity of materials to be recovered from the waste stream for each year.
- c. proposed regulatory bans of components of the waste stream to be processed (e.g., composting of yard wastes) or diverted to other classes of disposal (e.g., demolition waste to Class IV landfills). Estimate the quantity of materials to be diverted in each year.
- d. any economic incentives or disincentives that the region proposes to adopt (such as volume-based pricing, differential disposal fees, subsidies to industry using recovered materials, etc.), and the potential reduction in each year.
- e. any other waste reduction strategies.

f. complete Table IV-2.

- D. For those waste reduction strategies that are not addressed in another chapter, prepare an estimate of 10-year staffing requirements, by year; a ten-year budget, by year; and a funding plan.
- E. Prepare a composite 10-year implementation schedule for these strategies, with intermediate milestones that can be used to measure the region's progress toward achieving statewide waste reduction goals.
- F. Allocate specific responsibility for implementing the plan and meeting intermediate milestones among the region's participating jurisdictions.
- F. Describe how the region will collect data and prepare required annual progress reports to the state, as required in T.C.A. Sections 68-31-863(b) and 68-31-871.

CHAPTER IV: FORMS

Table IV-1

Population and Quantities of Waste Disposed of at Municipal Solid Waste Disposal Facilities and Incineration, in 1989

County	1989 Population	1989 Total Waste Disposed (tons)				
·						
	·					
Regional						
otal						

)	TOTAL	2003	2002	2001	2000	1999	1998	1997	1996	Subtotal	1995	1994	1993	1992	1991	1990	1985 to 1989	Year	
																		Previous Reductions	Estimated
		,																Recovered & Recycled	Quantities of Waste Re
																		Diverted to Alternative Disposal	TABLE IV-2 Estimated Quantities of Waste Removed or Diverted From the
																		Economic Incentives	1e Waste Stream (tons)
																		Other	
	·																	Total	

WASTE COLLECTION AND TRANSPORTATION

Statutory Requirements:

"... [E] ach plan submitted by a municipal solid waste region shall include... collection capability, including data detailing the different types of collection systems and the population and areas which receive and do not receive such services..." [T.C.A. 68-31-815(b)(2)(B); and "...as part of the local plan required by Section 13 of the Act, each county or multi-county municipal solid waste disposal region shall submit a plan for the adequate provision of collection services to the State Planning Office. Such plan shall identify unmet needs and shall be updated annually." [T.C.A. 68-31-851(b)

- A. Compare the existing regional collection system (as described in Chapter II) to the standards established by rule for number, location and design of collection facilities (convenience centers) [T.C.A. 68-31-851(b)]. Identify unserved areas in the region.
- B. Define total regional needs to provide adequate service to all residents and to meet this standard. Include convenience centers, or alternate collection systems; vehicles and transportation equipment; transfer stations; and waste processing facilities to prepare waste for transport (e.g., balers). Be specific and quantitative.
- C. Describe in detail how the region will meet identified needs within 10 years. Include:
 - collection goals and objectives;
 - a strategy for expanding existing service areas or creating collection services in unserved areas;
 - 3. timetable and milestones for construction of new convenience centers, or initiation of alternative collection systems;
 - timetable and milestones for purchase of collection vehicles;
 - 5. description of any proposed transfer stations and/or intermediate processing facilities (e.g., balers)
 - 6. integration of the collection system with recycling and problem waste collection, storage, and transportation.
- D. Summarize Total 10-year Staffing and Training Needs
- E. Prepare a 10-year budget, including both capital and annual operating costs. Describe the region's financing plan for capital costs (including state convenience center grants); and describe how the region will fund annual operating and maintenance costs.

^{*} These standards are scheduled to be promulgated by the Solid Waste Disposal Control Board in December, 1992.

- F. Prepare a 10-year timetable for implementation, with defined milestones for:
 - 1. design, financing, construction and opening of required facilities, and purchase of equipment;
 - 2. expansion and certification of staff;
 - 3. initiation of a funding source for annual operating costs (e.g., establishment of a tipping fee, or waste disposal fee);
 - 4. collection of required data, and preparation of annual reports on waste collection;
 - 5. plan updates.
- G. In a multi-county region, describe specifically how responsibility for providing needed collection facilities and services, and meeting milestones will be allocated among the jurisdictions in the region.
- H. Indicate the approximate location of existing and new elements of the regional collection and transportation system, as planned, on the composite regional systems map to be prepared as a part of Chapter XI. Use arrows to indicate probable waste flow patterns within the region, and between the region and adjoining regions.

Statutory Requirements:

"...(E) ach plan submitted by a municipal solid waste region shall include... a recycling plan, including a description of current public and private recycling efforts and planned efforts to enhance recycling within the county or region." [T.C.A. 68-31-815(b)(7)]

and "Effective January 1, 1996, each county shall provide...one (1) or more sites for collection of recyclable materials..." [T.C.A. 68-31-863(a)]

"Each person or entity operating a collection site for recyclable materials shall annually report the quantities of recyclable materials collected, by type of material, to the region which shall then report...[this information]...to the State Planning Office." [T.C.A. 68-31-863(b)]

- A. Define regional needs for recycling programs, facilities, and services, based on the analyses in Chapter II, and the preliminary regional goals set forth in Chapter III.C. Be quantitative and specific.
- B. Describe the specific actions the region will take to expand and enhance recovery, reuse and recycling in the region. The 10-year plan should include:
 - 1. regional goals and objectives;
 - a strategy for expanding recycling collection to unserved areas of the region; expanding recycling programs to include other economic sectors; and expanding recycling programs to include additional materials;
 - 3. a description of any planned recycling program(s) to be initiated in the region, and the rationale for the selection of each option; include:
 - a. " "type of system (i.e., curbside, drop-off, drop-off at convenience centers, "buy back," "blue-bag," "co-collection," "wet/dry systems" or some combination);
 - b. size of proposed program, expressed as the number of households and businesses served;
 - c. estimated quantity (percentage) of recovered materials to be collected and diverted from landfills, or incinerators, and;
 - d. the approximate service area.
 - 4. a description and approximate location of the sites for collection of recyclable materials, existing or new, to be provided by each county of the region, as required by T.C.A. 68-31-863(a);
 - 5. location and description of any regional center (if included in the plan) for processing recovered materials, (e.g., crushing glass, baling cardboard) and preparing them for shipment to markets;

- description of how the recycling collection program will cooperate to assemble economically viable quantities of recovered materials if individual collection sites are too small or too remote to participate actively in the market alone;
- 7. a description of how the region will interact with the Office of Cooperative Marketing, to be established under T.C.A. 68-31-826.
- 8. a description of actions the region will take to create/expand markets for recovered materials, or products with a recycled content,
 - a. through local government purchasing and procurement policy;
 - b. through a regional waste exchange, or reuse; or
 - through providing economic incentives for new businesses who manufacture new products from recovered materials
- 9. a description of specific programs to educate children and adults about source reduction and recycling, and to encourage broad participation. (Refer to relevant sections of Chapter IX.)
- 10.a ten-year staffing plan;
- 11. a ten-year budget;
- 12. a funding plan, describing sources of revenue that will be used to support recycling; estimate the proportion to be provided by appropriations from the general fund, local disposal fees, local disposal surcharges, state grants, private contributions, sale of recovered materials, etc.);
- 13. a plan for collecting required data on recycling and recovered materials and for submitting annual reports to the state. [T.C.A. 68-31-863(b) and 68-31-871(a), (b)]
- C. Explain how recycling programs in the public sector will be coordinated with private sector and non-profit sector programs, into an integrated regional system.
- D. Prepare a detailed 10-year implementation schedule with milestones that can be used to measure progress toward the plan's goals and objectives.
- E. Describe the specific allocation of responsibility for implementing the plan among the counties, cities, non-profit organizations and private sectors within the planning region.
- F. Indicate the location of existing and planned recycling programs, services, and facilities that will constitute the regional recycling infrastructure, on the composite system map to be prepared in Chapter XI.

CHAPTER VII.

COMPOSTING, SOLID WASTE PROCESSING WASTE-TO-ENERGY AND INCINERATION CAPACITY

Statutory Requirements:

Neither composting facilities, solid waste processing facilities, or incineration facilities are included in the statutory list of planning requirements. However, because these facilities are viable options which may be considered in designing an integrated, regional waste management system, the Director of the State Planning Office has determined that this information is relevant, and should be included in the regional plan.

"...[E] ach plan submitted by a municipal solid waste region shall include...any other information as the Director of the State Planning Office may deem relevant..." [T.C.A. 68-31-815(b)(15)]

- A. From Chapter II, and III, identify the region's quantitative needs (if any) for composting, waste processing and/or incineration capacity for the next 10 years.
- B. For each facility included in the regional plan, describe the steps the region will take to meet these needs, including:
 - goals and objectives;
 - a description of the type and capacity of any new facility to be provided, and its approximate location in the region;
 - 3. a description of the materials or specific portions of the waste stream to be composted, processed or burned (e.g., yard wastes, food wastes, etc.)
 - 4. a description of the procedure for siting, designing, permitting, financing, construction and operation of the facility;
 - 5. identify the market for compost, refuse-derived fuel or energy, and estimate revenues from sale of the product;
 - 6. estimated quantity of residuals to be disposed, and a residuals disposal plan;
 - 7. estimated operation and maintenance staff, and training and certification needs;
 - 8. estimated capital costs and a financing plan;
 - 9. a 10-year operating and maintenance budget; describe revenue streams to be used to support plant operation (e.g., local tipping fees and surcharges; local waste disposal fees; or annual appropriations from the general fund, etc.)
 - 10. integration with other elements of the regional solid waste system.
- C. Prepare an implementation schedule indicating specific milestones that can be used to document progress toward achieving the regional goals.

- D. If the region consists of more than one county, describe how implementation responsibility will be shared among participating jurisdictions.
- E. Indicate the location of each composting facility, each processing facility, each waste-to-energy facility, and/or each waste incinerator on the regional system map, to be prepared in Chapter XI.

CHAPTER VIII. DISPOSAL CAPACITY

Statutory Requirement:

"Each plan submitted by a municipal sold waste region shall include [a] planned capacity assurance, including descriptions of planned or needed facilities." [T.C.A. 68-31-815(b)(6)]

In this chapter, the region should describe how it will ultimately dispose of that portion of the solid waste stream which cannot be reduced, recycled, reused, composted, incinerated, or otherwise processed.

If the waste is to be buried at one or more Class I municipal solid waste landfills, describe the number, location and remaining capacity of each existing facility to be utilized. List any planned landfills which were included in the analyses in Chapter III, stating their location and capacity. If one or more new landfills will be required to meet ten-year needs, state the size, approximate location, and estimated costs of each new landfill.

- A. Based on the analyses in Chapters II and III of this plan, compare the total regional demand for disposal capacity with the current and planned regional supply of disposal capacity, for each of the ten projection years, following the methodology described in Chapter XII of the District Assessment. (Instructions and forms are provided at the end of this Chapter.)
- B. If there is excess capacity based on this analysis, describe in detail how the region will protect existing regional capacity for solid waste disposal (e.g., create a solid waste authority, exercise flow control and regional ban authority, etc). State how and when the region will initiate planning for replacement capacity, or expanded capacity should there be an unforeseen increase in waste generation (e.g., a new industry).
- C. If there is a <u>shortfall</u> in one or more projection years based on the above analysis, describe in detail what kind and how much additional disposal capacity will be provided. The disposal plan should include:
 - 1. regional goals and objectives;
 - 2. if the region consists of more than one county, describe the institutional structure to be created to site, construct, and operate a regional landfill and any legal measures required to create that structure (e.g., create an authority, negotiate contracts, etc.)
 - a description of the size and capacity of each new Class I municipal waste landfill to be constructed;
 - a. If the projected shortfall occurs in any of the first five years of the planning, state the approximate location of the facility (i.e., "a site in the southern sector of the region, in "X" county, with easy access to U.S. Highway "M").
 - b. If the projected shortfall occurs in any of the second five years of the planning period, describe the strategy and procedure to be used to identify a site.

- 4. estimated costs of developing each regional landfill described in (3), including land acquisition, site-testing, design and engineering, permitting and construction costs.
- 5. a financing plan for capital costs, including any bond issues, grants or loans;
- 6. estimated staff, training, and certification needs;
- 7. a ten-year operation and maintenance budget, by year;
- 8. an operating and maintenance funding plan (list revenue streams to be used to support operations including appropriations, local tipping fee, local disposal fees, etc.)
- 9. integration with remainder of the regional waste management system.
- D. Prepare an implementation schedule, with specific milestones that can be used to document progress toward achieving regional goals and objectives.
- E. If the region consists of more than one county, describe how responsibility for implementation will be allocated among the jurisdictions.
- F. Indicate the location of each existing and planned Class I municipal solid waste landfill on the regional system map, to be prepared in Chapter XI. For a landfill that is not yet sited, indicate the preferred general location where a site will be sought.
- G. If all or any part of a projected capacity shortfall is to be met by exporting waste from the region, document the concurrence of the importing region with the plan. Include any formal contract, interlocal agreement or other binding instrument that has been executed by the properly authorized officials in Appendix D.

If all or any part of the projected disposal capacity is to be utilized for disposal of solid waste imported from another region, document the amount of capacity to be reserved. Include a copy of any contract, interlocal agreement or other binding instrument that has been executed by properly authorized officials in Appendix D.

CHAPTER VIII: FORMS

Calculation of Regional Disposal Needs

To define regional needs, compare projected regional demands for solid waste disposal facilities with the projected regional supply—available and planned capacity to provide this disposal. This comparison should be made for every year in the ten-year planning period.

If the region has formally agreed to accept solid waste from another region as a part of its plan, the estimated quantity of waste to be imported must be added to the regional total demand.

If the region plans to export solid waste to another region, and that region has formally agreed to accept and dispose of the waste, the estimated quantity to be exported may be subtracted from the regional demand.

The projected supply is based on data displayed in Chapter II.E., and Tables II-8 through II-11. The projected demand is based on the analysis in Chapter III, B. and displayed in Table III-2.

Complete Table VIII-1 for each county in the region. Then enter the data from columns 4 or 5 into Table VIII-2, and determine net regional capacity for each projection year.

Tons Per Year

1. Projected Demand and Supply, and Identification of Potential Shortfalls or Surplus in Disposal Capacity

	_	_	_		
				Table VIII-1	
Country				•	

Year	DEMAND: Tons of Waste Requiring Disposal	SUPPLY: Existing & Planned Capacity	Surplus (+)	Shortfall (-)	
1993	·			·	
1994					
1995					
1996	·				
1997		•	·		
1998					
1999		•			
2000			•		
2001					
2002					
2003					

2. Regional Disposal Capacity: Potential Shortfalls or Surplus in Projection Years

Table VIII-2

Projected Net Disposal Capacity* (Tons Per Year)

County/Regional

Year	1.	2.	3.	4.	5.	6.	Regional** Total
1993 base year							
1994							
1995	·						
1996							
1997							
1998		,		·			
1999							
2000							
2001				·			
2002							
2003							,

^{*} Use (+) to indicate surplus capacity, a (-) to indicate a capacity shortfall.

^{**} Algebraic sum

PUBLIC INFORMATION AND EDUCATION

Statutory Requirements:

"...[E]ach plan submitted by a municipal solid waste region shall include ...a description of education initiatives aimed at business, industry, schools, citizens, and others, which address recycling, waste reduction, collection, and other goals..." [T.C.A. Section 68-31-815(b)(11)]

"...Each solid waste regional plan shall include an education program to assist adults and children to understand solid waste issues, management options and costs, and the value of waste reduction and recycling." [T.C.A. Section 68-31-842]

- A. Based on the data and analysis in Chapters II and III, define the regional needs for public information and education programs to support the solid waste management plan.
- B. Describe the steps the region will take to meet identified needs, including:
 - 1. regional goals and objectives;
 - 2. target groups and audiences;
 - 3. amount and kind of information to be provided;
 - 4. methods to be utilized (be specific & quantitative);
 - a. school-based instruction
 - b. workshops, conferences, and training courses
 - c. Audio-visual materials, slides, and videos
 - d. publications
 - e. contests and awards
 - f. exhibits or demonstrations
 - g. a speaker's bureau
 - h. other
 - 5. staff and budget needs;
 - a funding plan;
 - 7. evaluation and reporting
- C. Prepare a 10-year implementation schedule, with specific milestones for measuring progress toward implementation of the education element of the plan.
- D. For In a multi-county region, describe the allocation of responsibility for providing these educational programs among the counties, cities, schools and private organizations.

CHAPTER X. PROBLEM WASTES

Statutory Requirements:

- "...(E) ach plan submitted by a municipal solid waste region shall include... a plan for the disposal of house-hold hazardous wastes; [T.C.A. 68-31-815(b)(8)]
- "...Each county...shall provide a service site and shall advertise...the day(s) and hours and location where the household hazardous wastes will be collected...[and]...furnish at least one (1) person...who will assist...[at the] collection unit." [T.C.A. 68-31-829].
- "...Effective January 1, 1995, no municipal solid waste disposal facility or incinerator shall accept for disposal any whole waste tires, lead acid batteries, or used oil..." [T.C.A. 68-31-866(a)]
- "...By January 1, 1995, each county shall provide at least one (1) site to receive and store waste tires, used automotive oils and fluids, and lead-acid batteries...[and]...shall sell and/or cause the transfer of the recyclable materials...to a commercial recycler or a regional receiving facility..." [T.C.A. 68-31-866(b)]
- "...(E) ach plan submitted by a municipal solid waste region shall include...any other information as the Director of the State Planning Office may deem relevant to the implementation of the Act." [T.C.A. 68-31-815(b)(15)]
- The Solid Waste Management Act directly addresses four problem wastes. Each county or region, in its plan, must describe how the regional programs will interface with the state household hazardous waste collection service. The Act also bans disposal of scrap tires, batteries and waste oil in landfills after January 1, 1995, and requires each county to develop an infrastructure for accepting, storing, recycling or safe disposal of these materials by the end of 1994. The regional plan should address these requirements.

The Act does not address litter prevention/education/remedial action programs. However, the community efforts funded by the litter grants should be acknowledged, evaluated, and incorporated into the regional plan.

No data on current handling of waste tires, used oil or lead acid batteries was collected in the District Needs Assessment. The act bans these materials from landfills or incinerators by the end of 1994, and requires each county to provide a site to receive and store them for ultimate recycling and disposal. The regional plan should describe how the region will collect necessary data to locate, design and open these collection sites by the statutory deadline. Specific information to be included for each problem waste is listed below. A more detailed plan will be required when the regional plan is updated in 5 years.

OPTIONAL: Because of the potential overbuilding of infectious waste processing capacity, a moratorium on permitting such facilities was imposed in February 1991, which will remain in effect until regional plans are approved. As an optional element of its plan, the region may analyze its projected demand and evalute its needs for new on-site and/or commercial capacity for treatment and disposal of infectious waste over the 10-year planning horizon. This plan element is not required.

OPTIONAL: The region may develop a plan to manage any other problem waste, that is not specifically addressed by the Act or guidelines (e.g., white goods, abandoned cars, wood pallets, etc.); no region is required to address these wastes.

A. HOUSEHOLD HAZARDOUS WASTE (HHW)

- Identify the regional needs for a household hazardous waste management program.
- 2. For non-urban counties: describe the region's plan to meet these needs. Include in your plan:
 - regional goals and objectives;
 - process for selecting and developing a temporary site for collection, sorting and packaging of HHW (on state-sponsored collection days);
 - c. describe how the county or region will select and distribute information and educational materials describing household hazardous wastes, and "safe" substitutes; and promote collection days.
 - d. describe how the county or region will coordinate with and support the state collection days, (e.g., in providing for safety, security, emergency response, etc.).
 - estimate staff and training needs to meet county/regional responsibilities for HHW collection services;
 - f. estimate costs to county or region.
- 3. For urban counties: describe the process that will be used to select a permanent site for the collection, sorting and packaging of household hazardous wastes for shipment to a disposal site. Include:
 - a. goals and objectives;
 - b. procedure for siting, design and construction of a permanent selection site;
 - c. promotional and citizen educational efforts supporting household hazardous waste collection;
 - d. any waste recycling or "swap" programs to be initiated (e.g., paint swaps);
 - e. coordination with other elements of the region's solid waste management system;
 - f. estimated staff and training needs;
 - estimated capital costs, annual operating costs, and disposal costs.
- For all counties or regions: prepare a detailed implementation schedule, with milestones for measuring progress toward achieving plan objectives.
- 6. In a multi-county region, allocate responsibilities for implementation among the jurisdictions.

B. WASTE TIRES

- 1. Briefly describe the current (1993) waste tire handling and disposal practices in the region, by county, including:
 - a. location of permitted tire storage sites, and the approximate average and maximum quantity of tires stored at each site;
 - location of each tire shredding site in the region (if different from the storage sites);
 - a description of the tire shredding operation, (frequency, number of tires shredded at each visit, number of staff required to supplement contractor's staff, etc.);
 - d. ultimate use or disposal of the shredded tires;
 - e. operating costs for storage site, vector control, and shredding operation support.
- 2. How many new tires were sold in the region in 1993? Does the storage/shredding operation keep up with the current discard rate? If not, approximately how many unshredded tires remained in storage at the close of 1993?
- 3. Describe how the region plans to inventory illegal tire piles and estimate the quantity of tires in each.

C. WASTE OIL

- Describe briefly how waste oil (and other used automotive fluids) are currently managed in the region, by county.
- 2. If waste oil is now collected and recycled, report or estimate the quantity of oil that was recovered in 1993.
- If waste oil is currently being handled efficiently by the private sector, state what each county
 or the region will do to maintain and support the existing system.
- 4. If waste oil is not currently collected and recycled, describe how each county in the region will provide at least one site, by January 1, 1995, to receive and store waste oil, as required by T.C.A. 68-31-866(b).

D. LEAD ACID BATTERIES

- Describe briefly how discarded lead-acid batteries are currently managed in the region, by county.
- If waste lead-acid batteries are currently collected and recycled efficiently by the private sector, describe what each county or the region will do to maintain, support, or coordinate with the existing system.
- 3. If lead-acid batteries are not collected in the county or region, describe how each county in the region will provide at least one collection site, to receive and store discarded batteries, as required by T.C.A. 68-31-866(b).
- This quantity may be calculated from the annual amount of the tire pre-disposal fees paid into the Solid Waste
 Management Fund each year. The annual revenues, by county, can be obtained from the Department of Revenue.

E. LITTER

Based on the information in Chapter III of the District Needs Assessment, describe how the
county or region will coordinate proposed activities described in Chapters IV, VI, and IX of
the regional plan with existing activities funded by Tennessee Department of Transportation
litter grants.

F. INFECTIOUS WASTE (OPTIONAL)

- 1. Review and summarize any information on existing and planned infectious waste processing facilities or incinerators, as described in Chapter VI of the District Needs Assessment.
- 2. If there is a potential regional shortfall (within the next 10 years), describe how the region will define the need more precisely; and encourage the construction of needed facilities (public or private) to provide adequate capacity.

G. OTHER PROBLEM WASTES (OPTIONAL)

- 1. If the region has a problem waste management need that has not been specifically addressed in the statute or guidelines (e.g., white goods, abandoned cars, pallets, etc.), a plan for developing a management system may be included in the regional plan.
- 2. In a narrative, briefly describe the need and set forth a description of the steps the region proposes to take to meet the need, using the format developed for other plan elements.

IMPLEMENTATION: SCHEDULE, STAFFING AND FUNDING

In this chapter, the preliminary decisions about the components and structure of an integrated solid waste management system appropriate to the region should be revisited.

If the detailed analyses of the selected system components and their alternatives (Chapters IV-X) altered the region's preliminary choices, the system configuration as described in Chapter III may be revised. In particular, the proportion of the total solid waste stream to be handled by each component of the system may be adjusted to reflect higher probability.

However, if further analysis has not changed the proposed components and structure of the regional plan, the final system design should be confirmed, and an implementation schedule, staffing plan, and probable costs established.

A. SYSTEM DEFINITION

1. Recapitulate in a concise narrative, the components and structure of an integrated waste management system for the region. State regional goals, objectives and overall strategy for achieving these goals. Estimate the projected solid waste generation to be collected and managed; and indicate what percent of the total projected amount will be handled by each system component. This discussion should be based upon Chapters III-X, and supported by figures or graphics as needed.

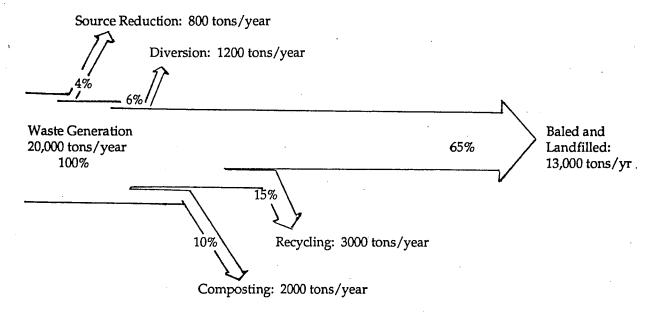
If the regional plan calls for construction of a major facility during the 10-year planning period which will affect the amounts and distribution of waste among component elements of the system, state when the new capacity will become available and how it will affect previous regional waste flow and disposal patterns.

2. Display the proposed regional system in a proportional flow diagram (or similar graphic display).

Example: Assume "Adams County" and "Fillmore County" have formed a two-county region, generating 20,000 tons of solid waste per year.

The planned regional system includes source reduction, diversion, composting, recycling and landfilling. The target goals for the first planning period are: source reduction, 4%; diversion (demoli tion waste), 6%; composting (yard waste), 10%; recycling (newsprint, cardboard, glass and cans), 15%; and landfilling, 65%.

Sample Proportional Flow Diagram for Adams/Fillmore Region:



3. Using the base map prepared in Chapter I, prepare a composite map of the regional solid waste system, as planned, which was described in previous chapters. Include both existing elements, as described in Chapter II, and new components (proposed in Chapters V, VI, VII, VIII, IX and X).

Indicate, by arrows, the waste flow patterns and exports/imports of waste from adjoining regions.

4. Describe the institutional structure that will be put in place to implement the plan.

B. IMPLEMENTATION SCHEDULE

1. Based on the implementation schedules and milestones developed for each plan element described in Chapter V through X, and parts C. and D. of this chapter, prepare a composite implementation schedule with milestones for the 10-year period, 1994 through 2003.

For the first five years (1994-1998), the implementation schedule should be detailed and specific. Be sure to include all statutory deadlines and regulatory deadlines, as well as the planning milestones developed in the plan. You may want to incorporate local government or regional deadlines (e.g., budget cycle) as well.

The schedule for the second five years (1999-2003) may be less detailed, but should include all major statutory and plan milestones.

2. The composite implementation schedule for the first five years should be displayed in a Table, a matrix, or a Timeline figure.

C. STAFFING AND TRAINING REQUIREMENTS

- List all authorized solid waste management positions in the region for the base year 1993, by system element (e.g., management, collection, landfill operation, etc.). Indicate which of these employees will be required to be trained and certified under the Solid Waste Management Act of 1991, and when certification will be sought.
- 2. Based on estimates for additional staff identified in Chapters IV through X, aggregate these needs and prepare a 10-year staffing plan, by system element, by year, and for a multi-county region, by jurisdiction. The planning horizon is January 1994 through December 2003.

Indicate when these positions will be filled, which new positions will require training or certification, and indicate when the training will be provided. Include these target dates on the implementation schedule in Part B of this Chapter.

3. Display this staffing plan on a matrix.

D. BUDGET

1. Based on estimated costs (capital, annual operation and maintenance) for each system element of the plan as set forth in Chapters IV through X, prepare a 10-year budget for implementing the region's solid waste management plan (FY 1994-2003). (If you adjust for inflation, indicate the factor applied and your rationale for selecting that figure.)

Use the uniform chart of accounts as required by the Comptroller, described in Chapter II, and certified in Appendix A....

- Describe the region's plan for financing any new capital improvement project required by the plan, including grants, loans or bond issues. Indicate the year in which financing is likely to be initiated. (Include this target date in the implementation schedule required in Part B of this Chapter.)
- 3. Describe how the region and its jurisdictions will meet projected annual operating and maintenance costs. Include which sources of revenue will be used, and provide a schedule for adopt ing these sources, if they are not now in place. Include these target dates in Part B of this chapter.

ALLOCATION OF IMPLEMENTATION RESPONSIBILITIES: PLAN ADOPTION AND SUBMISSION

A. ONE-COUNTY REGIONS

- If the region is a one-county region, the full responsibility for implementation resides with the
 county. The regional plan should be formally adopted by resolution of the Regional Administrative Board and signed by its Chairman. The plan should also be adopted by the County
 Commission, to acknowledge the county's commitment to support and fund the plan.
- 2. If the regional plan includes formation of a regional solid waste authority which will subsequently assume total responsibility for implementing the plan, describe the schedule for creating the authority, and delegating implementation responsibility to that authority.
- 3. Three copies of the plan should be submitted to the Governor's State Planning Office no sooner than September 30, 1993, and no later than December 31, 1993. A copy of the adoption resolution should be included with the submittal letter.

B. MULTI-COUNTY REGIONS

- If the region consists of more than one county, then the regional plan should assign specific
 responsibilities for implementing specific elements of the plan to specific jurisdictions. Based on
 the allocation of responsibilities as set forth in Chapters IV through X, prepare a matrix displaying actions to be accomplished and milestones to be met by each jurisdiction in the region, for
 each year of the ten-year planning period (1994-2003).
- 2. The plan should be formally adopted by resolution of the regional Administrative Board, and signed by its Chairman. To demonstrate concurrence with the plan, each county commission should ratify the plan, thereby acknowledging its future responsibility as a part of the region.
- 3. If the regional plan includes creation of a solid waste authority which will subsequently assume primary responsibility for implementing the plan, describe specific steps and milestones for forming an authority. List any general support activities (e.g., education) which will be carried out by all participating local governments.
- 4. Three copies of the plan should be submitted to the Governor's State Planning Office no sooner than September 1993, and no later than December 31, 1993. A copy of the adoption resolution and minutes of each County Commission's meeting ratifying the plan should be included with the submittal letter.

C. SOLID WASTE AUTHORITIES

- 1. If the regional plan was prepared by and will be implemented by an existing solid waste authority [T.C.A. Section 68-13-813(b)(2)], or by a solid waste authority created under provisions of T.C.A. Section 68-31-903 prior to December 31, 1993, then the plan should be formally adopted by and submitted to the State Planning Office by the Authority's Board.
- 2. Three signed copies of the plan should be submitted to the Governor's State Planning Office no sooner than September 30, 1993, and no later than December 31, 1993.

D. LOCAL PLANNING COMMISSION REVIEW

- To assure that the municipal solid waste region has complied with T.C.A. 13-3-105 and/or 13-4104, submit a copy of the minutes of a meeting indicating that this draft municipal solid waste
 plan has been submitted to the appropriate Regional or Municipal Planning Commission for
 review and comment, and possible adoption before it was submitted to the State Planning
 Office.
- 2. If the regional solid waste plan was formally adopted by appropriate local Planning Commissions, provide a copy of the resolution, or of the minutes of the meeting recording the adoption as Appendix E.

FLOW CONTROL AND PERMIT APPLICATION REVIEW

A. The Solid Waste Management Act of 1991 authorizes regions with approved plans to exercise certain flow control powers in accordance with the plan. The Act permits regions to exercise two (2) types of flow control: (1) the out-of-region waste ban [T.C.A. Section 68-31-814(b)(1)(B)]; and (2) intra-region flow control [T.C.A. Section 68-31-814(b)(1)(A)]. Authorities formed under this Act are also permitted to exercise broad flow control powers (T.C.A. Section 68-31-907]. The regional plan should specifically describe any flow control measures which it may include in its plan, and set forth a schedule for adoption.

The two types of flow control measures address two separate sets of policy concerns. Out-of-region bans are permitted in order to permit a region to carefully shepherd the capacity of its solid waste management facilities. An out-of-region ban must apply equally to all waste generated outside of the region's boundaries or the ban may be invalid under the Interstate Commerce Clause of the U.S. Constitution. The Act does exclude certain existing waste source arrangements from the exercise of flow control under a "grandfather" clause and an impairment of contract clause [T.C.A. Section 68-31-814(b)(1)(B)] and T.C.A. Section 68-31-814(b)(4)].

Intra-region flow control is permitted in order to address public health and safety and transportation management concerns in a coordinated manner, and to permit regions to guarantee a flow of waste as a revenue stream for financing bonds for municipal solid waste management facilities.

B. The Act also requires a municipal solid waste planning region with an approved plan, or a solid waste authority formed by the region, to review plans for a new solid waste disposal facility or incinerator to determine whether the proposed facility is consistent with the regional plan [T.C.A. Section 68-31-814(b)(a)(D); T.C.A. Section 68-31-814(b)(2); and T.C.A. Section 68-31-814(b)(3)].

The regional plan must describe the procedure, including the required public hearing, that it will utilize in reviewing a proposed facility, and approving/disapproving the application. Include any resolution/ordinances that must be adopted, including the mechanism for interested persons to comment, and identify whether the official board of the region or solid waste authority will make the decision, and document it.

PLEASE NOTE:

The recent Supreme Court decision of Fort Gratiot Sanitary Landfill. Inc., v. Michigan Department of Natural Resources and proposed legislation which is pending in Congress may require issuance of new, revised or supplemental guidelines for this chapter.

APPENDIX A

Legal Documentation and Organization of the Region

- To assure that the municipal solid waste region was established and is operating in accordance with T.C.A. Section 68-31-813, please provide copies of the following documents:
 - 1. Certified copy of the resolution adopted by each county commission, establishing the region [T.C.A. Section 68-31-813(a)].
 - Description of the administrative board for the region, including:
 - a. list of members, including the jurisdiction each represents, and term of office;
 - b. copy of the appointment letter for each member, and a record of their confirmation (resolution or minutes) by the appropriate legislative body(ies). [T.C.A. Section 68-31-813]; and
 - c. a list of the current officers of the board (1993).
 - 3. If the responsibilities of the planning region are to be performed by an existing Solid Waste Authority, provide:
 - a. a copy of all resolutions designating the authority as the regional administrative board [T.C.A. Sections 68-31-813(a)(2) and 68-31-815(b)(12)]
 - b. a copy of the statutes and/or resolutions creating the authority;
 - c. a list of the members of the Authority's Board of Directors, including the jurisdiction each represents, and term of office.
 - 4. If a multi-county region includes a municipality which lies within the boundaries of two or more counties, provide a copy of the ordinance recording that city's decision to participate in this region [T.C.A. Section 68-31-813]
 - 5. Description of the structure and role of Regional Municipal Advisory Committee [T.C.A. Section 68-31-813(e)], including:
 - a list of members, the interest each represents, and term of office;
 - b. mission statement;
 - c. summary of activities during plan development; and
 - d. probable role in implementation.
- II. To assure that the municipal solid waste region is complying with other provisions of the Solid Waste Management Act of 1991, please submit letter(s), signed by the appropriate County Executive and Mayors in the region, certifying that each jurisdiction has complied with the financial accounting requirements of T.C.A. 68-31-874(a), as amended. For municipalities, the letter of certification should indicate the name of the special revenue fund established by that city.

APPENDIX B

Documentation for Adjustments to the Base Year Generation

This appendix contains documentation for adjustments to the base year generation, or variances from the waste reduction goals, as set forth in [T.C.A. Section 68-31-861(a) and (b)] and discussed in Chapter IV. If no county in the region has utilized these options, omit this Appendix.

1. Adjustment of 1989 Generation Data:

- a. a copy of the county's letter to the Director of the State Planning Office requesting an adjustment to the 1989 base line data, and setting forth reasons for the adjustment;
- b. copies of any supporting documentation;
- c. copy of a letter from the Director of the State Planning Office approving the adjustment.

2. "No Collection" Variance

- a. copy of the county's letter to the Director of the State Planning Office requesting a variance;
- b. copy of a letter from the Director of the State Planning Office granting the variance.

3. Previous Waste Reductions (1985-1989)

If the region claims credit against its waste reduction goal for waste reduction and recycling programs in 1985 through 1988, provide documentation for those reductions.

Documentation could include sales records from a public recycling center, annual reports indicating quantities handled, etc.

APPENDIX C

Public Participation Activities

Document public participation activities during development of the regional plan.

- 1. Summary of workshops, public information meetings, informational and educational activities
- 2. An attendance list, and summary of the Public Hearing
- 3. Other (e.g., sub-committee activities).

APPENDIX D

Exports and Imports

If the region plans to meet all or part of the projected demand for treatment and disposal capacity by exporting waste to another region, document the concurrence of the impacting region. Appropriate documentation includes:

- 1. a resolution adopted by the administrative board of the receiving region agreeing to accept waste from the exporting region;
- 2. a fully executed interlocal agreement;
- 3. a contract;
- 4. other legal documentation

APPENDIX E

Review by Appropriate Municipal or Regional Planning Commission

To demonstrate that the regional solid waste plan has been submitted to the appropriate local planning commissions for review and adoption, please submit either:

- 1. a copy of the minutes of the commission meeting recording submission and review of the plan; or
- 2. a resolution adopting the regional solid waste plan